

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Guynn on March 22, 2010.

The application has been amended as follows:

Claims 2 and 15 are cancelled.

Claims 3-12, 14, and 16-20 are to remain as previously presented.

1. (Currently amended) A filter element for manufacturing tobacco smoke filters comprising:

a filtering material forming a filter element body having an outer surface and an interior portion extending longitudinally from a first end to a second end and which substantially contains starch and/or a starch-based polymer mixture and comprises pores and/or filter channels extending substantially longitudinally and continuously through[[in]] the interior portion of the filter element body [[and being]]so as to be open in the direction of gas flow, the pores and/or filter channels having a diameter in a range of about 50  $\mu\text{m}$  to about 100  $\mu\text{m}$ ,

wherein the filtering material is arranged in alternatingly succeeding layers comprised of starch and/or a starch-based polymer mixture and activated carbon and the layers are stacked transversely with respect to the direction of gas flow.

13. (Currently amended) A filter element for manufacturing tobacco smoke filters comprising:

Art Unit: 1791

a filtering material forming a filter element body having an outer surface and an interior portion extending longitudinally from a first end to a second end and which substantially contains starch and/or a starch-based polymer mixture and includes a plurality of pores and/or filter channels extending substantially longitudinally all the way through [[in]] the interior portion of the filter element body and being aligned partly transversely relative to the direction of gas flow through the interior portion of the filter element body, the pores and/or filter channels having a diameter of less than about 100  $\mu\text{m}$ .

wherein the filtering material is arranged in alternately succeeding layers comprised of starch and/or a starch-based polymer mixture and activated carbon and the layers are stacked transversely with respect to the direction of gas flow.

2. Claims 1, 3-14, and 16-20 are allowed.
3. The following is an examiner's statement of reasons for allowance:
4. Loercks et al. (US 6062228) discloses a method for manufacturing biodegradable filter elements.
5. Figlar et al. (US 6779529) discloses a multiple section cigarette filter (i.e. transversely stacked layers).
6. Floyd et al. (US 4411280) discloses ventilation of polymer foam filter rods by creating air passages in the filter tip perpendicular to the tip axis.
7. Koster et al. (US 4291712) discloses a cigarette filter with one or more axial channels made by means of a laser beam and discloses channels of 0.5 mm diameter.
8. Hale (US 34389381) discloses a filter for tobacco products with a plurality of longitudinal tunnels each having a roughened wall structure.
9. Yamaguchi (US 4269204) discloses a cigarette filter and teaches that it is well known to make a filter of fibrous material of cotton.
10. Wang (US 5019262) discloses hydrophilic microporous membranes which are particularly well suited as filters for cigarettes and like products.

Art Unit: 1791

11. Lockett (US 5896860) discloses a smoking filter comprising two layers of material having a plurality of circuitous or serpentine passageways.

12. In the amendment above, the Examiner considered page 3, lines 19-21 of the specification to provide support for "extending substantially longitudinally" in amended claims 1 and 13. Page 3, lines 19-21 recites, "The filter channels can extend or be orientated approximately in the direction of the gas flow; however, deviations are possible."

13. Regarding claim 1, the prior art, taken alone or in combination, fails to teach or suggest a filtering material forming a filter element body having an outer surface and an interior portion extending longitudinally from a first end to a second end and which substantially contains starch and/or a starch-based polymer mixture and comprises pores and/or filter channels extending substantially longitudinally and continuously through the interior portion of the filter element body so as to be open in the direction of gas flow, the pores and/or filter channels having a diameter in a range of about 50  $\mu\text{m}$  to about 100  $\mu\text{m}$ .

14. Regarding claim 13, the prior art, taken alone or in combination, fails to teach or suggest a filtering material forming a filter element body having an outer surface and an interior portion extending longitudinally from a first end to a second end and which substantially contains starch and/or a starch-based polymer mixture and includes a plurality of pores and/or filter channels extending substantially longitudinally all the way through the interior portion of the filter element body and being aligned partly

Art Unit: 1791

transversely relative to the direction of gas flow through the interior portion of the filter element body, the pores and/or filter channels having a diameter of less than about 100  $\mu\text{m}$ .

15. Regarding claim 17, the prior art, taken alone or in combination, fails to teach or suggest a filtering material forming a filter element body having an outer surface and an interior portion which contains substantially starch and/or a starch-based polymer mixture and about 5% by volume of natural cellulose fibers, and which includes a plurality of pores and/or filter channel extending at least partially through the interior portion of the filter element body.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LEE whose telephone number is (571)270-7711. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna Wyrozebski can be reached on (571)272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL LEE/  
Examiner, Art Unit 1791

/KAT WYROZEBSKI/  
Supervisory Patent Examiner, Art Unit 1791